

ABSTRACT OF THE DISCLOSURE

When a gettering sink is removed by using alkaline solution of etchant having a high selectivity to the gettering sink and a barrier film functioning as an etching stopper, residue of gettering is left. However, according to the present invention, a semiconductor film that serves as a gettering sink contains nitrogen concentration is 1×10^{18} atoms/cm³ or lower, oxygen concentration is 8×10^{19} atoms/cm³ or lower, and noble gas concentration is 1×10^{20} atoms/cm³ or higher. In order to achieve the above-described impurity concentrations, a concentration of oxygen that is an impurity element in a chamber is reduced by using a flammable gas for heating and exhausting oxygen.